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ABSTRACT

This paper describes the Child Study Center (CSC) of the Pinellas County, Florida, Pupil Services Demonstration Project, an Elementary Secondary Education Act Title III project. The purpose of the CSC is to provide the diagnostic, prescriptive, and consultative intervention necessary to assist referred students with serious learning problems in experiencing success in school. The CSC utilizes an interdisciplinary team approach for providing comprehensive evaluation of children who are exhibiting behaviors indicative of multiple problems which are impeding learning. Implementation of the composite remedial strategies is achieved through direct contacts with the learner and through consultative relationships with persons influential in the child's life in the systems within which a child must function. The exchange of information and the cooperation among CSC, school, home, and community resources is a means to providing services which lead to successful experiences for referred children. The scucess of the CSC program has been documented by quantitative statistical procedures implemented in evaluating cognitive development, learning aptitude, oral reading achievement, and mental and physical health functioning. (WR)

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THE CHILD STUDY CENTER PROGRAM

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The Child Study Center Program

The Child Study Center (CSC) is an innovative program of the Pinellas County, Florida, Pupil Services Demonstration Project, a validated, ESEA Title III project.

The purpose of the Child Study Center is to provide the diagnostic, prescriptive and consultative intervention necessary to assist referred students with serious learning problems experience success in school.

The CSC was established in 1971, as the delivery system to fulfill a need for additional services to children in the Pinellas County school system. At that time, available evidence indicated that approximately 8% of Pinellas County elementary school students were experiencing severe learning problems and were not receiving adequate assistance from existing programs. Furthermore, it was found that approximately 5% of the students in the densely populated area of Southeastern St. Petersburg (the target area for this project) were experiencing multiple learning problems which were preventing the children from deriving optimal benefit from their school experience.

The CSC project serves students who attend 20 elementary and junior high schools (Grades K-8) in the target area of lower Pinellas County, which is 100% urban. Approximately 90,000 persons (including 15,000 students) live in this area of Pinellas County which has the highest population density of any county in Florida.

Because of the multi-causation factor present in children with severe learning problems, the CSC concept was developed on the premise that the solution to such problems lies in an interdisciplinary team approach which focuses on the whole child in a single referral setting. These troubled children need to receive comprehensive, in-depth diagnostic and remedial services so that they can become more effective and efficient learners.

During the past three years, the Child Study Center has developed an intervention program designed to meet critical learner needs, and embraces the disciplines of education, psychology, social work, and speech pathology in implementing a team approach to aiding the educationally troubled child.

Major activities of the Center's study of each child include: data collection; conducting an in-depth, interdisciplinary study; developing composite diagnoses and prescriptions for establishing remedial plans; providing short-term diagnostic treatment for determining the validity of diagnostic and prescriptive reports; and conducting activities to facilitate adequate implementation of recommended treatment plans. The CSC is housed in All Children's Hospital, and is able to obtain pediatric, neurological and ophthomological examinations for needy children through the Out-Patient Clinic. Additional medical and psychiatric services and consultations are contracted for as needed.

Since it is necessary to gather information that relates to all facets of the learning process, data collection activities are a crucially important aspect of the entire study. A CSC staff member is assigned as coordinator of each case and is responsible for obtaining all available information on previous services provided by school personnel and community professionals. The child's teachers' reported perceptions of behaviors at school and a classroom observation by the case coordinator provide insight into an understanding of the child's problems as well as the nature of teacher-child relationships.

The Center social worker arranges an intake conference with the parents who assist in further defining the nature of the child's problems by providing information as to the child's development, the family history and current family dynamics. The data collection procedures normally precede the formal evaluation of the child at the Center.

The evaluative aspects of the Center study is the heart of the program for staff diagnosticians and consumes an intensity of effort, if not a major portion of time. Each child participates in evaluative activities with the psychologist, speech pathologist and educational diagnostician.

The psychological assessment includes testing and observation to determine intellectual functioning, personality adjustment, social-emotional development, and possible neurological dysfunctioning.

In the evaluative process of the Center the educational diagnostician is responsible for assessing the learning aptitude and academic functioning of the student. Specific areas of examination are: the functioning of the learning modalities; the preferred learning style; vision acuity and visual perceptual development; visual-motor integration; reading, spelling, writing, language development, math and study skills. Data from test results and observations are used in determining the present grade level functioning in each area, but more importantly, in analyzing the specific learning and academic needs of the student so that an efficacious instructional program can be devised.

The communication evaluation encompasses the area of speech, language and hearing. Specific skills which are examined include: articulation, fluency, vocal production, oral mechanism, vocabulary, syntax, grammar, auditory acuity, and auditory perception. The general purpose of this phase of the diagnostic process is to determine whether a communication dysfunction exists, and to what extent it interferes with the child's ability to learn.

Formal evaluation time averages 9 to 12 hours. Each diagnostician is responsible for an individual report of observations, findings, general recommendations and specific instructional or behavioral suggestions. Team staffings and consultations are scheduled to synthesize the results of individual specialists into a composite whole. The composite reports are comprehensive, specific and action-oriented. The reports pin-point specific problems relating to learning skills and behaviors of the child, and suggest strategies by which parents, teachers and significant others can intervene successfully. The diagnostic findings are reported to school personnel, parents and involved community professionals in person and in writing.

Dialogue and consultation are ongoing processes within the team, with related workers and with the family. Consultation encompasses all delivery aspects of service to the child. The study, in itself, only becomes useful when it is meaningful and acceptable to all those who educate the child. Therefore, consultation takes many forms, such as: intra-staff meetings; pre-referral consultation; crisis intervention; short-term consultations; medical consultation. Two of the more important consultative efforts include: (1) consultation among Center staff and involved school personnel during and following the Center study to discuss findings and plans for the child and, (2) consultation with the child's parents to maintain their support and involvement.

Remedial efforts are designed to assist the child improve his learning and communication skills as well as increase his frequency of productive social behavior. A major objective of CSC efforts is to monitor and modify the learning process so the child can individually experience feelings of success at school and home.

Center team members participate in the remediation process directly through short-term diagnostic teaching and therapeutic treatment, or indirectly by consultation with classroom teachers, speech therapists, learning disabilities teachers, and other available school personnel such as school counselors and psychologists. CSC staff members are also available to aid in the implementation of the prescriptive programs by demonstrating applicable methods and materials, by providing recommended materials, and by acquiring, training and supervising volunteer tutors.

In addition to remediation in academic and communication skill areas, individual or group counseling for children and/or their parents frequently enhances the child's motivation to learn and behave more productively.

Obtaining treatment or correction of found physical/neurological impairment is another aspect of the total remedial strategies for some children.

An average of 34 hours of services is provided for each referred child; however, each case remains open and receives continued follow-up until school or home indicates that no further help is needed.

The Child Study Center, then, utilizes an interdisciplinary team approach in providing a comprehensive evaluation of children who are exhibiting behaviors indicative of multiple-problems which are impeding learning. Implementation of the composite remedial strategies is achieved through direct contacts with the learner, but primarily through consultative relationships with the significant others in the systems within which a child must function. The exchange of information and the active cooperation among CSC, school, home and community resources is the key to providing services which lead to successful experiences for referred children.

The success/effectiveness of the Child Study Center program has been documented by quantitative statistical procedures implemented in evaluating four objectives. The learner objectives for children following 6 months intervention from the Child Study Center were that participating children will evidence significant improvement in:

1. cognitive development - as measured by the performance on specified sub-tests of the Wechsler Intelligence Scale for Children (WISC).
2. learning aptitude - as evidenced by performance on specified sub-tests of the Detroit Tests of Learning Aptitude (DTLA).
3. oral reading achievement - using the Gilmore Oral Reading Test.
4. mental and physical health functioning - as evidenced by teacher and parent ratings based on observation.

Criterion for objectives #1, 2 and 3 was a statistically significant ($p < .05$) difference between pre- and post-tests, in favor of the post-test performance on the specified instruments.

For Objective #4, criterion was that 70% of the responses to items on relevant sub-scales of the Teacher Rating Scale (TRS) and Parent Rating Scale (PRS) indicate that CSC participants will have been rated as either maintaining or increasing their frequency of appropriate behavior.

Not all children referred to CSC were included in the evaluation design. Those excluded were children referred too late to have post-test data collected, or who left the target area before post-testing. Also, the number of participants involved in the evaluation varied on Objectives #2 and 3, depending on the number initially scoring significantly below average on pre-tests.

Since there was no "control" group available against which the expected gains could be tested for significance, comparisons were made against test norms. Based on the low pre-test scores received by referred children, it was observed that they had been maintaining below average progress.

Standard scale scores (corrected for age at time of testing) were available for the WISC sub-tests (Objective #1) and were used to determine if significant gains were obtained. In Objectives #2 and 3, the DTLA and Gilmore sub-tests yielded age and grade-equivalent scores. Since maturation or normal achievement gains would be expected in the referred children without intervention, it was decided to test for the significance of score gains by requiring them to be statistically significantly greater than the number of grade/age units which had elapsed between pre- and post-testing. Thus, the objective criterion required the gains to be significantly greater than the gains made by average children.

For Objective #4, the locally developed Teacher Rating Scale (TRS) and Parent Rating Scale (PRS) were used to obtain pre-post behavioral indices. The pre-rating scales were sent to the teacher and parent at the time of the child's referral, and again approximately five months later. The validity of both the TRS and PRS is content in nature. The instruments were developed by the Child Study Center. All items are

criterion referenced in the sense that they are descriptions of behaviors whose frequency is easily observable. Using Cronbach's Alpha, internal reliability estimates for the TRS and PRS are .91 and .84, respectively.

The findings for Objectives #1, 2, 3 and 4 follow:

1. Objective #1 - The mean gain scores between pre- and post-tests on 5 sub-scales of the Wechsler Intelligence Scale for Children were analyzed using a paired difference t-test of significance. The gains made on all 5 sub-tests studied were statistically significant at or beyond the .05 criterion level specified. See Table 1. These findings are educationally significant because the gains were made in important areas of cognitive development as measured by an instrument with high predictive validity for achievement in school.

2. Objective #2 - The mean gain scores between pre- and post-tests of 4 sub-tests of the Detroit Tests of Learning Aptitude were analyzed using a paired difference t-test of significance. The gains made on 3 of the 4 sub-tests were significant at or beyond the .05 criterion level specified. One sub-test failed to reach significance by .04 of a point. See Table 2. Since the score gains occurred in essential areas important to academic success, as measured by a valid and reliable instrument, these findings have important educational significance.

3. Objective #3 - The mean gain scores between pre- and post-tests of the Comprehension sub-test of the Gilmore Oral Reading Tests were analyzed using a paired difference t-test of significance. The gains were significant beyond the .05 criterion level specified. See Table 3. Since reading skills are fundamental for success in school the educational significance of this finding is evident.

4. Objective #4 - The pre- and post-ratings for subjects on each item of the Teacher Rating Scale (TRS) and Parent Rating Scale (PRS) were analyzed in order to determine the percentage of responses within each sub-test indicated maintenance or improvement of a given behavior. Since a criterion reference of 70% was established for objective attainment, statistical significance is not applicable. The TRS results exceeded the criterion level on all 5 sub-scale areas. See Table 4a. The PRS results exceeded the criterion level on both sub-scale areas. See Table 4b. These results are evidence that participants have maintained or improved their mental and physical functioning. The educational significance is that as a child exhibits behaviors indicative of improved mental and physical functioning, he more optimally benefits from learning experiences.

The project evaluator, who completed the analysis of all data, is Jeffrey Moore, doctoral candidate in the University of South Florida's Educational Research Program. The development of evaluation designs and the selection of appropriate statistical techniques were done with consultation from the professional staff of the USF Educational Research Department, Dr. Joe Mazur, Department Head.

Table 1 - Mean gain scores between pre- and post-tests of sub-scales of the Wechsler Intelligence Scale for Children using data from 1971-74.

WISC Sub-tests	N	Mean Difference (scale score)	Variance of the mean difference	Hypothesized Difference	t-value
Arithmetic	65	.62	2.40	-0-	3.20**
Digit Span	61[1]	.46	2.25	-0-	2.39*
Picture Comp.	41[1]	.83	4.80	-0-	2.42**
Picture Arr.	61	1.05	3.51	-0-	4.37**
Coding	66	1.45	4.01	-0-	5.90**

Table 2 - Mean gain scores between pre- and post-tests of sub-tests of the Detroit Tests of Learning Aptitude using data from 1971-74.

Detroit Sub-tests	N	Mean Difference (in months)	Variance of the Mean Difference	Hypothesized Difference[2] (in months)	t-value
Aud. Unre. Words	52	16.63	452.08	5.27	3.85**
Aud. Rel. Syll.	53	12.83	172.22	5.26	4.20**
Vis. Att. Letters	29[1]	9.38	180.32	5.24	1.66n.s.
Oral Dir.	45	10.56	275.93	5.18	2.17*

Table 3 - Mean gain score between pre- and post-tests of sub-tests of the Gilmore Oral Reading Test using data from 1971-74.

Sub-test	N	Mean Difference (tenths of gr.)	Variance of Mean Difference	Hypothesized Difference (tenths of gr.)	t-value
Comprehension	40	.9	1.45	.53	2.19*

[1]Not given 1971-72 school year

[2]Calculated from average elapsed time between pre- and post-tests

*$p < .05$ **$p < .01$
n.s. not significant

Table 4a - Results of Analysis of pre- and post ratings on the Teacher Rating Scale (TRS).

TRS Sub-scales	Percentage reported as having maintained or improved behavior
General Academic	75.2%
Specific Academic	72.9%
Mental Health	71.9%
Physical	70.5%
Social	74.7%

Table 4b - Results of analysis of pre- and post ratings on the Parent Rating Scale (PRS).

PRS Sub-scales	Percentage reported as having maintained or improved behavior
Social/emotional	86%
Physical	96%